



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/764,628	01/18/2001	Kohichi Kamijoh	JP919990240-US1	8126

7590 03/10/2004
Anne Vachon Dougherty, Esq
3173 Cedar Road
Yorktown Heights, NY 10598

EXAMINER

BHATNAGAR, ANAND P

ART UNIT	PAPER NUMBER
----------	--------------

2623

DATE MAILED: 03/10/2004

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/764,628

Applicant(s)

KAMIJOH ET AL.

Examiner

Anand Bhatnagar

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____

Art Unit: 2623

DETAILED ACTION

Claim Rejections - 35 USC § 112

1A.) The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. Regarding claims 1, 9, and 17: The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Examiner is unsure what is taking place first the quantization or the predetermined process. The first limitation states that image data values are changed so that the quantized values will not be changed due to errors produced by the predetermined process while the last limitation states quantizing the image data for which the predetermined process is being performed. Examiner will address the claims as best understood.

1B.) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claims 1, 9, and 17: Examiner is unsure what is taking place first the quantization of the image data or the predetermined

Art Unit: 2623

process. The first limitation states that image data values are changed so that the quantized values will not be changed due to errors produced by the predetermined process while the last limitation states quantizing the image data for which the predetermined process is being performed. Examiner will address the claims as best understood.

Claim Rejections - 35 USC § 102

2.) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 9, 12, 17, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Rabbani (U.S. patent 5,568,570).

Regarding claims 1, 9, and 17: Rabbani discloses an image processing apparatus comprising:

conversion means for altering values of image data so that quantized values will not be changed by errors introduced through a predetermined process (fig. 13 elements 52-58, col. 3 lines 38-67, col. 4 lines 1-11, and col. 8 lines 20-45, where the pixels values of the image data are changed until there is no quantization error present) ;

Art Unit: 2623

processing means for performing said predetermined process for said image data (col. 3 lines 32-41 and 55-61, where the high resolution image is changed to a low resolution image, this is read as a predetermined process being performed); and

quantization means for quantizing said image data for which said predetermined process being performed (fig. 13 element 52 and col. 8 lines 30-32, where the image data is being quantized which has undergone a predetermined process of resolution change).

Regarding claims 4, 12, and 20: The image processing apparatus wherein said processing means performs, as said predetermined process, a process for embedding data in said image data (fig. 12 element 22 and col. 3 lines 55-64, wherein a watermark is inserted into an image which is undergone resolution change).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3A.) Claims 2, 10, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabbani (U.S. patent 5,568,570) in view of Isnardi et al. (U.S. patent 6,037,984).

Regarding claims 2, 10, and 18: The image processing apparatus wherein said processing means divides said image data to perform an embedding process which

Art Unit: 2623

embeds embedding data into each of divided image data, said apparatus further comprising detection means for detecting said data being embedded in said divided image data.

Rabbani discloses to inserted a watermark into an image. Rabbani does not teach to divide the image prior to inserting a watermark and inserting a watermark into each of the divided regions. Isnardi et al. teaches to divide an image to insert a watermark into these divided regions (Isnardi et al.; col. 2 lines 27-30). It would have been obvious to one skilled in the art to combine the teaching of Isnardi et al. to that of Rabbani because they are analogous in watermarking images. One skilled in the art would have been motivated to include the dividing of the image of Isnardi et al. and incorporate it into the system of Rabbani in order to make it difficult for an individual to find the watermark(s) in the image and will not be able to easily tamper with the watermark.

3B.) Claims 5, 7, 8, 13, 15, 16, 21, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabbani (U.S. patent 5,568,570) in view of Isnardi et al. (U.S. patent 6,037,984).

Regarding claims 5, 13, and 21: The image processing apparatus wherein said processing means comprises:

a hash value calculation means for calculating a hash value based on predetermined key information and said image data; and

embedding means for embedding said hash value in said image data.

Art Unit: 2623

Examiner takes Official Notice because using a has function based on key information is well known in the art as shown in the reference of Bloomberg (U.S. patent 5,765,176) (col. 25 lines 17-20).

Regarding claims 7, 15, and 23: The image processing apparatus further comprising detection means for detecting said data that are embedded in said image data. Examiner takes Official Notice because any watermarking technique(s) always requires a way to detect the specific watermark, which is usually performed by reversing the encoding method used.

Regarding claims 8, 16, and 24: The image processing apparatus according to claim 5, further comprising:

inverse quantization means for inversely quantizing image data;

extraction means for extracting a hash value that is embedded in said inversely quantized image data;

calculation means for calculating a hash value based on said image data and said key information that are used for the calculation of said hash value that is extracted; and

alteration detection means for employing said hash value that is extracted and said hash value that is calculated to determine whether said inversely quantized image data have been altered.

Examiner takes Official Notice because it well known in the art to reverse the process of encoding to detect the presence of a watermark and/or if any alteration has taken place to the image containing the watermark. Ex.: If a quantizer/DCT is used in

Art Unit: 2623

encoding then a inverse quantization or inverse DCT, respectively, needs to be performed to decode.

3C.) Claims 3, 6, 11, 14, 19, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabbani (U.S. patent 5,568,570).

Regarding claims 3, 11, and 19: The image processing apparatus according to claim 1, wherein said conversion means comprises:

format conversion means for changing the form of each pixel included in said image data. Examiner takes Official Notice because format conversion is well known in the art.

adjustment means for, based on a quantization value used for said quantization, adjusting said value of said image data whose form has been changed, wherein the form changing process and the adjustment process are repeated until, for each set of said image data whose form has been changed, quantized values do not change by errors that are introduced through said predetermined process. (fig.13 wherein there is a second pass and col. 8 lines 40-45, wherein the process is repeated to adjust the pixels until there is no quantization error present).

Regarding claims 6, 14, and 22: The image processing apparatus further comprising detection means for detecting said data that are embedded in said image data. Examiner takes Official Notice because any watermarking technique(s) always requires a way to detect the specific watermark, which is usually performed by reversing the encoding method used.

Art Unit: 2623

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cox et al. (U.S. patent 5,930,369) for watermarking an image.

Contact Information

5. Any inquiry into this communication should be directed to Anand Bhatnagar whose telephone number is 703-306-5914, whose supervisor is Amelia Au whose number is 703-308-6604, group receptionist is 703-305-4700, and group fax is 703-872-9306.

AB

Anand Bhatnagar

Art Unit 2623

March 4, 2004


SAMIR AHMED
PRIMARY EXAMINER